

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims:

Claims 1-45 (Cancelled).

46. (New) A method for testing the function of LCD displays comprising individual display segments, based on the difference in the electrical capacitance of defective and intact display segments, wherein the display segments of the LCD display are directly coupled to the segment electrodes and back electrodes, the method comprising the steps of:
- determining the capacitance (Cseg) of the display segments directly with a capacitance measuring method by measuring the electrical charge stored in the display segment, wherein a charge transfer controlled by a sequence control proceeds through both the capacitance of a display segment to be measured and a reference capacitor (Cref), and for testing the function of the display segment the capacitance of the display segment is determined using a charge balance ratio between the display segment to be tested and the reference capacitor (Cref).
47. (New) The method according to claim 46, wherein the capacitance of the display segments is determined by means of charges transferred by capacitive coupling, whereby an electrical measuring current is coupled capacitively via the capacitance (Cseg) of the display segment to be measured into an evaluation circuit and the evaluation circuit measures the charge coupled over.
48. (New) The method according to claim 46, wherein the reference capacitor (Cref) is integrated into the LCD display.
49. (New) The method according to claim 46, wherein the capacitance of the display segments (2, 3) is determined by means of a capacitance measuring method utilizing a $\Delta\Sigma$ conversion.

50. (New) The method according to claim 46, wherein an automatic measuring-circuit selector is used to address individual display segments for testing the function of the segments.
51. (New) The method according to claim 50, wherein the measuring-circuit selector is used to apply a measuring voltage to a first electrode of a display segment to be tested, to connect the electrodes of other display segments corresponding to the first electrode to earth in terms of alternating voltage, to measure the coupled charge on the second electrode of the display segment to be tested, whereby this point is connected to virtual earth in terms of alternating voltage, and to connect the electrodes of other display segments corresponding to said second electrode to earth in terms of alternating voltage.
52. (New) The method according to claim 46, wherein the display segments are triggered in a matrix structure using a multiplex procedure both for the ongoing operation of the LCD display and the testing of the function of the segments.
53. (New) The method according to claim 52, wherein triggering levels and clock phases for triggering the display segments, in particular in the multiplex procedure, are selected such that the voltage level of inactive display segments is below a response threshold and the voltage level of the active display segments is above the response threshold of the display segments, the capacitance measuring method is performed using these voltage levels, and the switch phases of the capacitance measuring method are synchronized with the clock phases of LCD triggering.
54. (New) The method according to claim 52, wherein the display segments are triggered direct voltage-free, on average, by periodically reversing the polarity of the voltage levels.

55. (New) The method according to claim 52, wherein the LCD display is triggered at low impedance for at least one of the ongoing operation and capacitance measurement in order to reduce the influence of coupling capacitances.
56. (New) The method according claim 46, wherein the capacitance measuring method is performed such that the effective voltage value of the display segments is substantially identical to the value without measurement of the capacitance.
57. (New) The method according to claim 46, wherein the capacitance of the display segments is determined by means of the capacitance measuring method in the form of a digital measuring result and the testing of the function of a display segment is performed using the digital measuring result.
58. (New) The method according to claim 46, wherein the testing of the function of the display segment is performed during the ongoing operation of the LCD display.
59. (New) The method according to claim 58, wherein the sequence control for the capacitance measurement and a measuring-circuit selector for triggering a display segment is one of modulated by and synchronized with the driver circuit of the LCD display.
60. (New) The method according to claim 59, wherein one or more of the following components are housed in a single integrated component: the sequence control for the capacitance measurement, the measuring-circuit selector for triggering of a display segment, the measuring circuit, the LCD driver/decoder circuit, and the analytical circuit.
61. (New) The method according to claim 46, wherein only activated display segments are tested for function.
62. (New) An electronic measuring system for testing the function of LCD displays comprising individual display segments, based on the difference in the electrical

capacitance of defective and intact display segments, wherein the display segments of the LCD display are directly coupled to the segment electrodes and back electrodes, the electronic measuring system comprising:

a capacitance measuring facility that allows the capacitance (C_{seg}) of the display segments to be determined directly with a capacitance measuring method by measuring the electrical charge stored in the display segment; and

an electronic circuit for measuring the capacitance of the display segments with the capacitance measuring method, in which a charge transfer controlled by a sequence control proceeds through both the capacitance of a display segment to be measured and a reference capacitor (C_{ref}), and wherein for testing the function of the display segment the capacitance of the display segment is determined using a charge balance ratio between the display segment to be tested and the reference capacitor (C_{ref}).

63. (New) A diagnostic device for testing the function of LCD displays comprising individual display segments, based on the difference in the electrical capacitance of defective and intact display segments, wherein the display segments of the LCD display are directly coupled to the segment electrodes and back electrodes, the diagnostic device comprising:

a capacitance measuring facility that allows the capacitance (C_{seg}) of the display segments to be determined directly with a capacitance measuring method by measuring the electrical charge stored in the display segment; and

an electronic circuit for measuring the capacitance of the display segments with the capacitance measuring method, in which a charge transfer controlled by a sequence control proceeds through both the capacitance of a display segment to be measured and a reference capacitor (C_{ref}), and wherein for testing the function of the display segment the capacitance of the display segment is determined using a charge balance ratio between the display segment to be tested and the reference capacitor (C_{ref}).